

1 Claims

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3 1. An Optical Mechanical Assembly (OMA) for use in a
4 portable optical data storage device, comprising a single
5 piece chassis.

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7 2. An Optical Mechanical Assembly as claimed in claim 1
8 having mounting means for mounting components of the
9 portable optical storage device thereon.

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11 3. An Optical Mechanical Assembly as claimed in claim 2
12 wherein, said mounting means is a mounting plate for the
13 motor shaft of the disc spindle motor.

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15 4. An Optical Mechanical Assembly as claimed in claim 2
16 or claim 3 wherein, said mounting means is a mounting
17 plate for the windings of the disc spindle motor.

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19 5. An Optical Mechanical Assembly as claimed in any one
20 of claims 2 to 4 wherein, said mounting means is a
21 mounting plate for the control circuit of the disc
22 spindle motor.

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24 6. An Optical Mechanical Assembly as claimed in any one
25 of claims 2 to 5 wherein, the chassis is made from metal.

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27 7. An Optical Mechanical Assembly as claimed in any one
28 of claims 2 to 6 wherein, said mounting means is the
29 mounting plate for the sled motor.

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31 8. An Optical Mechanical Assembly as claimed in any one
32 of claims 2 to 7 wherein, said mounting means is the
33 mounting plate for the drive system.

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2 9. An Optical Mechanical Assembly as claimed in any one
3 of claims 2 to 8 wherein said mounting means is the
4 mounting plate for the leadscrew.

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6 10. An Optical Mechanical Assembly as claimed in any one
7 of claims 2 to 9 wherein, said mounting means is the
8 mounting plate for a first guide rail.

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10 11. An Optical Mechanical Assembly as claimed in any one
11 of claims 2 to 10 wherein, a sled motor is attached to
12 said mounting plate, the sled motor being driven onto the
13 leadscrew via a gearbox assembly.

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15 12. An Optical Mechanical Assembly as claimed in any one
16 of claims 2 to 10 wherein, a sled motor is attached to
17 said mounting plate, the sled motor being driven directly
18 from a stepper motor onto the leadscrew.

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20 13. An Optical Mechanical Assembly as claimed in any one
21 of claims 1 to 12 wherein, a second guide rail is mounted
22 on the chassis and the sled motor driven from the
23 leadscrew acts on the OPU via this second guide rail via
24 a cam. This reduces vibrational susceptibility.

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26 14. An Optical Mechanical Assembly as claimed in any one
27 of claims 1 to 13 wherein, screws are used to allow for
28 OPU tilt adjustment.

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30 15. An Optical Mechanical Assembly as claimed in claim
31 14 wherein, the screws are mounted on both ends of the
32 first guide rail, and one end of the leadscrew.

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1 16. An Optical Mechanical Assembly as claimed in any one
2 of claims 14 or 15 wherein there are three screws.

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4 17. An Optical Mechanical Assembly as claimed in any one
5 of claims 14 to 16 wherein, the screws are mounted on
6 both ends of the leadscrew and one end of the first guide
7 rail.

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9 18. An Optical Mechanical Assembly as claimed in any one
10 of claims 14 to 17 wherein, the screws are mounted on
11 both ends of one of the first or second guide rails, and
12 one end of the other to allow for OPU tilt adjustment.

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14 19. An Optical Mechanical Assembly as claimed in any one
15 of claims 14 to 18 wherein, the screws are spring
16 mounted.

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